WSDOT Utilizes Strategies to Attract Bidders

Currently, when contractors bid on WSDOT projects, they estimate the potential future cost of building materials and build that risk into their bid. This results in higher bids from contractors when the construction materials market is volatile, as it is now. The volatile market makes it especially difficult for contractors bidding on large projects that may take years to construct because contractors are at risk to lose money if their bids underestimate the future costs of materials. Even contractors bidding on shorter duration jobs face underestimating costs in today's market of spiking prices for construction materials. Hot Mix Asphalt (HMA) prices are of particular concern as they increased 34% in 2006, and 9% during the first two quarters of 2007. This increase in price prompted WSDOT to implement a HMA Escalation Clause last September.

The clause provides for an upward or downward adjustment in the price WSDOT pays the contractor for HMA on multi-season projects. It was designed to transfer some of the risk of volatile HMA prices from the contractor to the state, therefore reducing the effect of cost uncertainty on contractors' bids and ultimately resulting in contractors submitting lower bids on WSDOT projects because they no longer have to build potential future cost increases into their bids.

WSDOT awarded 8 contracts containing the clause since it was implemented. The table below compares the average unit bid price submitted by the contractor to the average unit bid price for the side of the state the contract takes place in during the quarter the project was awarded. WSDOT's goal for contracts containing the clause is to have low bids submitted by contractors for HMA less than 10% above the average unit bid price for the side of the state the contract takes place in during the quarter the project was awarded. Bid prices on all but one project came within the threshold, while more than half the projects containing the clause came in below the average price. No price adjustments have been made to date on contracts containing the clause.

WSDOT Projects Utilizing the Hot Mix Asphalt Esclation Clause, October 2006 – June 2007

Project Name	Tons Awarded	HMA Price/ton	Quarter Average Price/ton	% Difference
SR 20, Sidney Rd to Scenic Heights	17,450	$66.45	$67.85	-2%
SR 20, Fredonia to I-5	56,062	$54.02	$64.26	-19%
SR 502, I-5 Interchange	55,671	$57.13	$64.26	-12%
SR 9, Schloman Rd to 256th St	19,290	$59.92	$64.26	-7%
SR 539, Horton Rd to Tenmile Rd	68,990	$76.03	$67.95	12%
US 395, North Spokane Corridor – Freya to Farwell	36,412	$59.55	$57.48	4%
SR 304 Downtown Bremerton Pedestrian Access Improvements	5,960	$71.26	$67.95	5%
I-5 Rush Rd to 13th St – Add Lanes	134,105	$58.50	$67.95	-14%

Source: WSDOT Construction Office

WSDOT is taking additional steps to make projects more attractive to contractors. WSDOT implemented a similar clause on a multi-year projects to address concerns about rising fuel costs. To date, 10 contracts contain the clause and WSDOT has paid a total of $22,687 on two of the contacts. Additionally, WSDOT looks for ways to make projects more attractive to contractors by bundling smaller, similar projects into larger contracts, and in some cases breaking up very large projects into smaller contracts. WSDOT is currently using the strategy of breaking up a large project on the I-405 corridor congestion relief project, which is being bid as many smaller contracts.

For More Information

www.wsdot.wa.gov/biz/construction/

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Washington State
Department of Transportation

Washington State
Department of Transportation

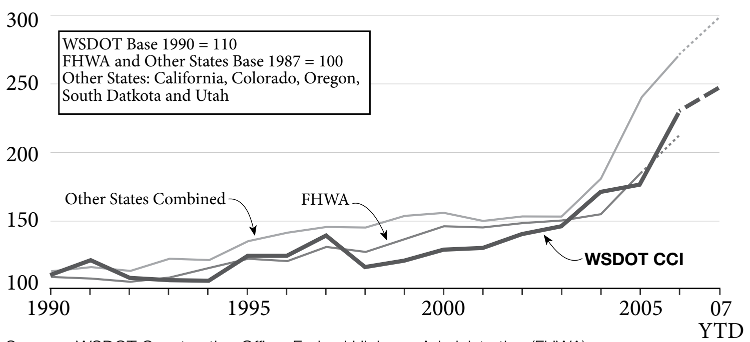
Information About Rising Construction Costs in Washington State

- Construction Cost Index
- Asphalt, Crude Oil and Diesel Fuel Indices
- Individual Material Unit Bid Prices
- Sticker Shock: Washington and Beyond
- What WSDOT Does and Does Not Influence
- Average Number of Bidders on WSDOT Projects
- Prospects for Labor Costs
- Actions to Attract Bidders

July 2007

Trends relating to rising costs are affecting the construction industry and WSDOT in particular. Since 2004, the construction industry has seen prices spike for materials such as steel, asphalt and concrete. Highway construction has experienced inflation at levels much higher than many other types of construction as the above materials comprise a large amount of the materials used on road projects. Additionally, fuel prices have increased significantly and highway construction often requires contractors to use large amounts of fuel to truck materials and equipment to the jobsite and to power construction equipment. In addition, factors such as the number of project bidders WSDOT can attract, and labor costs are affecting the costs of highway construction. This can be seen in particular in the Puget Sound area, where large public and private construction programs are competing with WSDOT for contractors.

Construction Cost Indices
Washington State, FHWA, and Other States



Sources: WSDOT Construction Office, Federal Highway Administration (FHWA)
Note: WSDOT 2007 Index is for Quarters 1 and 2; FHWA 2006 Data is for Quarters 1, 2 and 3; Other States 2007 Data is for the First Quarter.
Note: 2003 and 2004 WSDOT CCI data points adjusted to correct for spiking bid prices on structural steel.

Construction Cost Index

WSDOT prepares construction cost estimates using historical information about market conditions drawn from recent bids. Like other state DOTs, WSDOT must extrapolate for the future based on past records, not from a crystal ball of future market conditions. WSDOT accumulates construction cost information and calculates a Construction Cost Index (CCI). The CCI is then compared to the experiences of other western states.

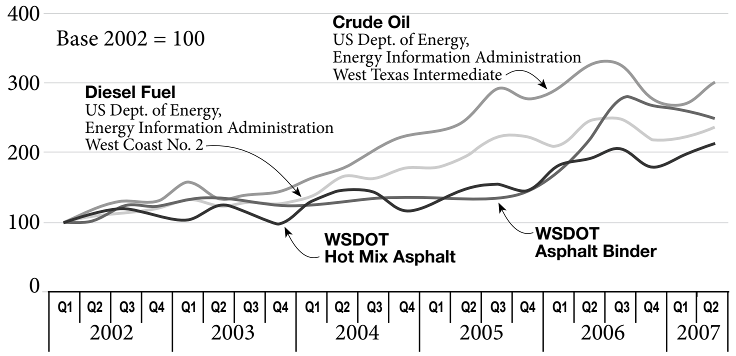
The average annual growth rate of the CCI held steady at about 1.5% per year from 1990 through 2001. Beginning in 2002 and continuing through 2005, the growth rate increased to 8% per year. In 2006, WSDOT's CCI increased 30% over 2005. WSDOT's CCI has increased 7% in the first two quarters of 2007 over the annual average for 2006, from 228 to 245.

According to the American Association of State Highway and Transportation Officials, Washington State is not alone. Sharply increasing construction costs and reduced competition for bids are forcing other state Transportation Departments to defer hundreds of projects as they cope with the loss in purchasing power of highway dollars.

The following components (weighted as shown) are used to compute the CCI:

Hot Mix Asphalt (48.5%)
Structural Concrete (17.4%)
Roadway Excavation (10.7%)
Crushed Surfacing (7.9%)
Structural Steel (6.9%)
Steel Reinforcing Bar (5.4%)
Concrete Pavement (3.2%)

WSDOT Asphalt, Crude Oil and Diesel Fuel Indices

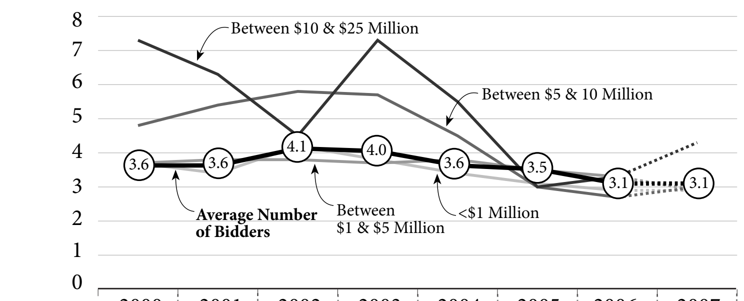


Crude oil prices and refining trends have a large impact on the cost of WSDOT projects. The relationship between Hot Mix Asphalt (HMA) and crude oil prices is especially significant as virtually every activity necessary to produce and place a ton of HMA is highly dependant on petroleum products. HMA prices typically follow a similar pattern to the price of crude oil and diesel fuel. More recently, price increases for refined products like asphalt and gasoline are outpacing crude oil price increases. This is due to demand for these distilled products and refinery capacity to produce them. The recent spike in asphalt prices which were relatively flat in previous years may be due to lowered refinery utilization, as well as refiners processing different types of crude oil that produce less asphalt.

Unplanned refinery outages during the first quarter of 2007 had a significant effect on all refined products nationwide. Though refineries are now operating at closer to full capacity, demand for fuels continues to rise. At the same time refineries are scaling back, delaying or cancelling projects planned to increase refinery capacity due to the high cost of construction materials and labor. Cost increases for steel, cement, labor and the higher fuel costs to run construction machinery have forced refiners to cancel expansion projects.

Further, crude oil and gasoline prices have reached new highs that could make it economically feasible for refiners to make huge investments in technologies that would allow them to further break down heavier crude oil distillates into lighter fuels. The technology, known as "cracking" enables refiners to break apart the long petrochemical molecular chains found in asphalt oil into smaller pieces capable of being refined into higher-end products like gasoline. WSDOT is unaware of any refineries in Washington that are considering investing in the technology, however it is unknown what affect the increased use of this technology around the United States would have on asphalt prices nationwide or in local areas.

Average Number of Bidders
By Size of Contract



	2000	2001	2002	2003	2004	2005	2006	2007 YTD
1 Bidder	7.7%	12.3%	12.6%	8.5%	13.4%	9.2%	10.3%	9.5%
2 Bidders	26.1%	23.2%	22.2%	17.6%	20.4%	22.0%	37.6%	37.1%
3 Bidders	23.9%	23.2%	15.6%	24.2%	22.5%	33.3%	19.7%	25.7%
More than 3 Bidders	42.3%	41.2%	49.6%	49.7%	43.7%	35.5%	32.5%	27.6%

Source: WSDOT Construction Office

WSDOT's goal is to have three or more bidders for each highway construction project. However, large public and private construction programs in Washington, as well as at the national level, are contributing to a trend of fewer contractors submitting bids for WSDOT projects. This reduction in bidding competition is a sign that contractors have a full load of work ahead of them; unfortunately, it will tend to produce higher prices for WSDOT projects. The average number of contractors bidding on each WSDOT project during the first two quarters of 2007 remained unchanged from the 2006 annual average of 3.10. The percentage of WSDOT projects with four or more bidders slightly decreased while the percentage of WSDOT projects with three bidders slightly increased. The percentage of projects with one or two bidders remained relatively flat.

Prospects for Labor Costs

Labor costs contribute roughly 40 percent to contractor costs for the delivery of a typical WSDOT highway construction project. In the recent past, labor contract negotiations have been relatively flat, with respect to wages, leaving the negotiations to center around the benefits package. However, 2006 and 2007 negotiations brought significant annual increases to a number of trades commonly employed in the construction of a typical WSDOT project. The above average increases indicate that Washington State's construction activity is strong and skilled construction labor may have difficulty meeting demand.

Seattle's labor market made national news during last summer's month long concrete workers' strike that delayed several major projects in the Seattle area including Sound Transit light rail. In May, Seattle entered the headlines again as the contractor's trade association (AGC) negotiated contracts for cement masons, operators, laborers, carpenters and Teamsters working on the west side of the state.

Typically, average annual wage and fringe increases have been around 3.5 percent in the Seattle area. This year's negotiations brought annual increases in the range of 5 to 6 percent for all trades. The Engineering News Record, a leading construction industry periodical reported that the cement masons and laborers settled for five year pacts with increases of 5.5 percent in the first year, 5 percent in the second year and 5 percent in the third year with reopeners for wage negotiations in the fourth and fifth years. Carpenters and operating engineers negotiated increases of 6 percent, 5.5 percent and 5 percent the first three years, while Teamsters agreed to increases of 5.5 percent the first two years and 5 percent the third year.

In addition to the increased cost of skilled construction labor, the demand for construction labor could outpace supply, leading to further cost increases as some contractors could face a "premium charge" to retain qualified workers. WSDOT expects the higher cost of construction labor to lead to higher overall costs for WSDOT projects as contractors build the cost of labor into their bids.

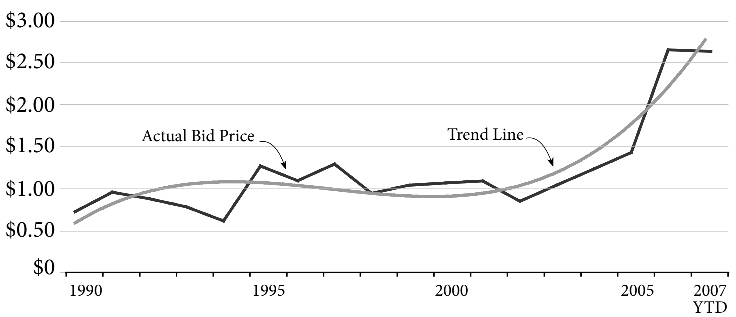
Individual Material Unit Bid Prices

WSDOT's CCI is a composite of unit price information from low bids on seven of the most commonly used construction materials. The graphs below represent the unit bid price history of the materials from 1990 through the 2nd quarter of 2007. Of the seven materials WSDOT tracks in the CCI, Hot Mix Asphalt (HMA) comprises 48.5%, or almost half the weight of the index. HMA prices increased 9% during the first two quarters of 2007.

Construction industry experts are predicting further price inflation for materials associated with highway construction throughout 2007. According to Ken Simonson, Economist for the Associated General Contractors of America, the greater volatility that can be expected for petroleum, concrete, and metals products implies that highway and other heavy construction are more likely to experience large price jumps again than are building construction segments. Simonson predicted structural steel, reinforcing steel, asphalt and cement prices to rise in 2007, as well as labor costs.

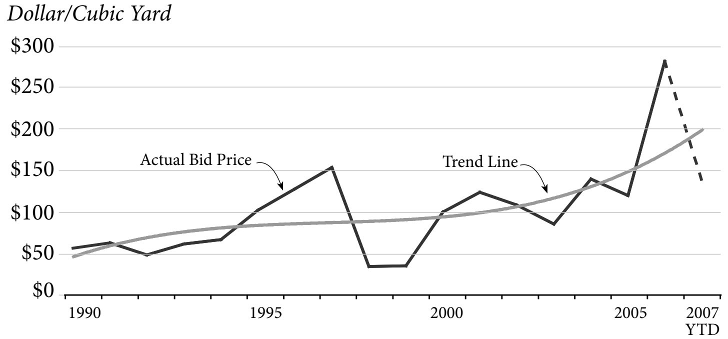
Structural Steel Unit Bid Price

Dollar/Pound



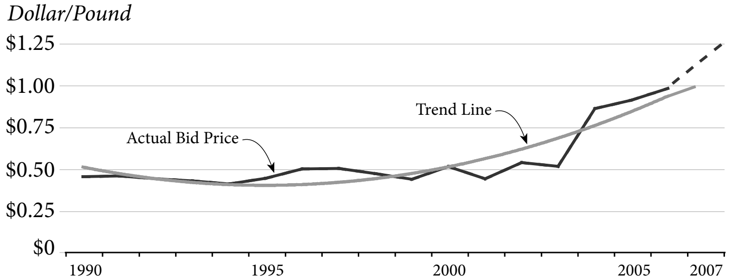
Portland Cement Concrete Pavement Unit Bid Price

Dollar/Cubic Yard



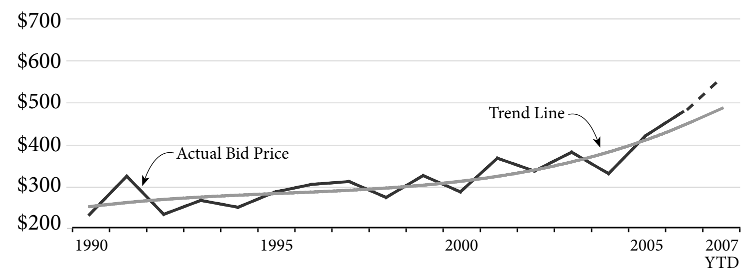
Steel Reinforcing Bar Unit Bid Price

Dollar/Pound



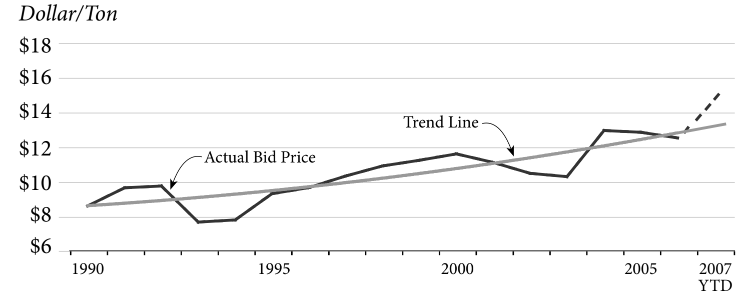
Structural Concrete Unit Bid Price

Dollar/Cubic Yard



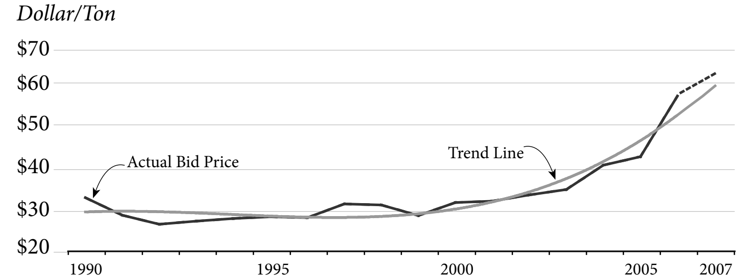
Crushed Surfacing Unit Bid Price

Dollar/Ton



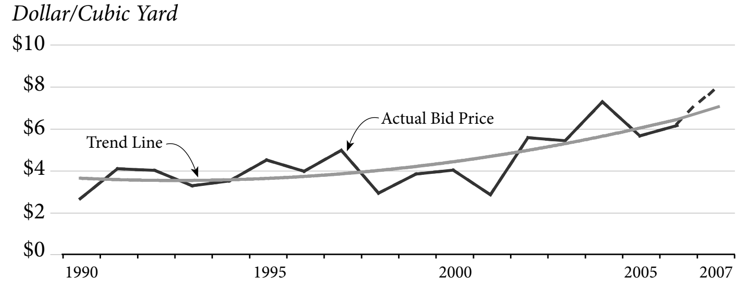
Hot Mix Asphalt Unit Bid Price

Dollar/Ton



Roadway Excavation Unit Bid Price

Dollar/Cubic Yard



Sticker Shock: Washington and Beyond

- The lowest bid for the first stage of Sound Transit's HOV lane project on Interstate 90–which went out to bid in January–was 23 percent over the agency's estimate of $18 million.
- Costs for a pair of railroad underpasses in downtown Yakima now top $34.7 million, up 40 percent from estimates a year and a half ago.
- In early March, the lower of two construction bids for the Cypress Avenue Bridge in Redding, California came in at $64.2 million, some $16 million over the engineer's estimate.
- Denver's FasTracks trains and other improvements could cost $6.5 billion, almost 65 percent higher than 2004 estimates due to significant increases in costs of materials.
- The lower of the two bidders for the I-75 widening project in Naples, Florida came in at $547.9 million, some $117 million over the engineer's estimate.
- The cost of replacing the Nalley Valley Viaduct in Tacoma is now pegged at $1.4 billion, up from the $650 million estimate of 13 months ago. The growing costs are blamed on higher oil and steel prices today and even higher prices due to inflation over the next 16 years.
- The price tag to widen the Clinton Keith Road bridge over Interstate 215 has jumped by at least $9.5 million from $25 million a year ago to $34.5 million in April 2007. $7.5 million of the 38% increase is attributable to significant construction cost increases.
- In Nevada, a plan to widen Highway 50 to Highway 95A was delayed because of funding shortfalls. According to NDOT, Nevada's funding shortfall is caused by dramatic price increases for materials that have driven up the costs of constructing and fixing roads.
- From 2004 to 2006 North Dakota saw an 80% increase in the average cost per mile for asphalt overlays. Because of the sharp increase in construction costs and stagnant revenue, North Dakota has been forced to delay one-third of planned improvements for the 2007 construction season.

"Cement prices spiked. Steel prices rose, largely because of competition from new skyscrapers and roads in China. A flurry of megaprojects, and the post-hurricane reconstruction of New Orleans, triggered a labor shortage that may continue for years.

-Mike Lindblom,
"Highway projects' tab goes up 31%"
The Seattle Times, January 2, 2006.

What WSDOT Does and Does Not Influence

WSDOT ***does*** influence:

- Fair and efficient practices and risk allocating in contract administration.
- Communicating current and future job opportunities and bid advertisement schedules to promote competitive environment. This includes providing special outreach on unusual or difficult projects.
- Specifications on which contractors can confidently prepare bids and fair process for responding to bidders' questions.

WSDOT ***does not*** influence:

- Overall volume of public and private sector work seeking contractors or their access to key subcontractors and construction material.
- Bonding and other capacity constraints affecting contractors' appetite for work.
- Market trends in the construction industry towards consolidation and shrinkage of the local firms, especially subcontracting specialists.

WSDOT, with advice from the Washington Asphalt Paving Association (WAPA), implemented a Hot Mix Asphalt Escalation Clause on multi-year projects statewide. The escalation clause is designed to transfer some of the cost escalation risk from the contractor to the state, therefore reducing the effect of cost uncertainty on contractor's bids. There are two anticipated outcomes. First WSDOT and WAPA anticipate this will result in contractors submitting lower bids, and ultimately lower overall project costs for the state, because contractors no longer have to inflate their HMA bids out of fear of under-estimating future market prices. The second goal is to make contractors less vulnerable to losses due to sudden increases in market prices of HMA. WSDOT is using a similar escalation clause for fuel prices on select multi-year jobs that have similar risks for fuel price increases and inflated contractor bids due to fuel cost uncertainty. See the back page for more information on these and other actions WSDOT is taking to attract bidders.